

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

Claims 1-113. (Cancelled)

114. (Currently Amended) A process for screening glycoform specific antibodies capable of binding to at least one given glycoform of a second glycoprotein among antibodies elicited against a first glycoprotein,

said first glycoprotein being pituitary or blood human TSH from healthy individuals,

said second glycoprotein being a recombinant human TSH produced by mammalian cells and said second glycoprotein being itself a glycoform of the first glycoprotein,

said process comprising the following steps~~a step of determination of the binding between-~~:

~~a) checking that a panel of~~ antibodies elicited against the first glycoprotein bind to said recombinant human TSH, said antibodies being classified in pools, each pool being characterized in that two antibodies selected from the same pool can not bind to the same glycoprotein at the same time,

(1) contacting said panel of antibodies elicited against the first glycoprotein with at least one glycoform of said recombinant human TSH,

(2) determining the binding affinity between the first glycoprotein and said recombinant human TSH, or at least one glycoform of said recombinant human TSH,

and

recovering antibodies recognizing said recombinant human TSH, or at least one glycoform of said recombinant human TSH with a higher affinity than that displayed with the first glycoproteinb)—at least one glycoform of a second glycoprotein,

wherein said ~~at least one~~ glycoform of said recombinant human TSH is the second glycoprotein is selected from a group of glycoforms of said recombinant human TSHthe second glycoprotein, each glycoform of said group corresponding to a determined glycosylation state beingwhich is either:

a) essentially more sialylated, more branched and less fucosylated than the recombinant human TSH~~said second glycoprotein,~~ or

b) essentially more sialylated, less branched and less fucosylated than the recombinant human TSH~~said second glycoprotein,~~

~~wherein antibodies elicited against the first glycoprotein which bind to the second glycoprotein with an affinity higher than the binding affinity of said antibodies to the first glycoprotein are screened.~~

115. (Currently Amended) The process according to claim 114, wherein a glycoform of said recombinant human TSH is the second glycoprotein being:

a) essentially more sialylated, more branched and less fucosylated than the recombinant human TSH~~said second glycoprotein,~~ or

b) essentially more sialylated, less branched and less fucosylated than the recombinant human TSH~~said second glycoprotein, and~~

is obtained by a combination

of at least one enzymatic modification of recombinant human TSH~~the second~~
glycoprotein, and/or

of at least one lectin fractionation~~of the second glycoprotein~~.

116. (Previously Presented) The process according to claim 115, wherein the lectin is selected from the group consisting of a mannose-specific lectin, a fucose-specific lectin, a galactose-specific lectin, and a sialic acid-specific lectin.

117. (Previously Presented) The process according to claim 115, wherein the enzymatic modification is carried out by an enzyme selected from the group consisting of

a glycosidase, and

a glycosyltransferase.

118. (Previously Presented) The process according to claim 117, wherein the glycosidase is a neuraminidase or a fucosidase, and wherein the glycosyltransferase is a sialyltransferase.

119. (Currently Amended) The process according to claim 115, wherein ~~[[a]]said~~
less fucosylated glycoform of recombinant TSH~~the second glycoprotein as compared to~~
~~the second glycoprotein~~ is obtained by lentil fractionation and of the second glycoprotein
by collecting ~~[[a]]the~~ fraction which does not bind to lentil.

120. (Currently Amended) The process according to claim ~~[[115]]~~131, wherein a ConA fractionation of said recombinant human TSH~~the second glycoprotein~~ is performed by collecting three fractions, A, B, and C, the binding of which to ConA is such that,

fraction C binds to ConA more strongly than fraction B binds to ConA, and
fraction B binds to ConA more strongly than fraction A binds to ConA,
the branching state of a given fraction being essentially different from the
branching state of the other two fractions.

121. (Currently Amended) The process according to claim ~~[[114]]~~115, wherein a
more sialylated glycoform of said recombinant human TSH ~~the second glycoprotein as
compared to the second glycoprotein~~ is obtained by sialyltransferase treatment ~~of said
second glycoprotein or by neuraminidase treatment followed by sialyltransferase
treatment of said second glycoprotein.~~

122. (Currently Amended) The process according to claim ~~445~~ or 121, wherein
the sialyltransferase is a α -2,6-sialyltransferase having an increased solubility and a
superior activity.

123. (Currently Amended) The process according to claim 122, wherein said α -
2,6-sialyltransferase is a N-terminally shortened ST6Gal sialyltransferase having
~~deleted of at most~~ its first 99 residues as set forth in SEQ ID NO: 1.

Claim 124. (Canceled)

Claim 125. (Canceled)

126. (Currently Amended) The process according to claim 114, wherein the
binding of the antibodies to the first glycoprotein, to the recombinant TSH and to the
glycoforms of the recombinant TSH ~~antibody binding~~ is determined by immunoassays.

127. (Currently Amended) The process according to claim 126, wherein the immunoassays are immunoassay formats comprising ~~comprise~~ an amplification system for detection.

128. (Currently Amended) The process according to claim 126 or 127, wherein the immunoassays are ~~[[is a]]~~ sandwich immunoassays, comprising the following steps:

fixing a capture antibody selected from a pool onto a solid phase ~~obtained in a preliminary step, said preliminary step being such that the antibodies to be screened are classified in pools, each pool being characterized in that two antibodies selected from~~ ~~[[a]]the~~ same pool can not bind to the same glycoprotein at the same time,

~~onto a support,~~

contacting a glycoprotein, corresponding to the first glycoprotein, to the recombinant TSH second glycoprotein or to the glycoforms of the recombinant TSH second glycoprotein, to said capture antibody, to form a capture antibody-glycoprotein binary complex,

contacting a tracer antibody, selected from a pool ~~obtained in a preliminary step, said preliminary step being such that the antibodies to be screened are classified in~~ ~~pools, each pool being characterized in that two antibodies selected from~~ ~~[[a]]the~~ same pool can not bind to the same glycoprotein at the same time, provided said pool is different from the one used for the selection of said capture antibody, to said capture antibody-glycoprotein binary complex, to form a capture antibody-glycoprotein-tracer antibody ternary complex,

detecting the tracer antibody for measuring the number of ternary complexes.

129. (Previously Presented) The process according to claim 116, wherein the lectin is selected from the group consisting of a ConA lectin, a Lentil lectin, an Ulex lectin, a ricin, a limulin lectin and a Sambucus nigra lectin.

130. (Previously Presented) The process according to claim 127, wherein the immunoassays are an ELISA format.

131. (new) The process according to claim 116, wherein the manose-specific lectin is ConA.